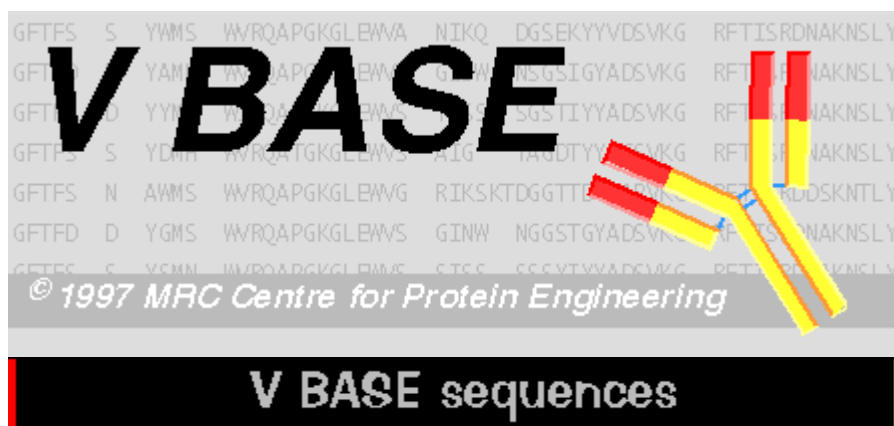


EXHIBIT 24



Although we suggest you use the [Amino acid and nucleotide sequence alignments](#) of the functional sequences to design PCR primers and probes etc. you may wish to browse the entire database, which includes the unmapped and non-functional sequences. Use the directory below to identify the name of the sequence you are interested in and then click on the V BASE entry. This will take you to the sequence itself. Alternatively, you can go directly to the sequences by clicking [here](#).

V BASE - main directory

This is a list of all the sequences in V BASE (this includes all mapped and unmapped sequences, whether functional or not - a compilation containing only mapped functional sequences can be found [here](#)). To remove the redundancy (caused by different groups publishing the same sequence) where there are two or more exon sequences are identical on the nucleotide level there is a single V BASE entry (Column 1). This table lists all the identical published sequences which correspond to each V BASE entry (Column 5). A link to the reference list is provided in parentheses for each sequence. Sequences which can be assigned definitive map positions within the main heavy and light chain loci according to accepted locus nomenclature are shown in bold and in these cases the locus/segment name is given in Column 2. Sequences which map to orphon loci are not shown in bold but their chromosomal locations are given as "Orph-CX" in Column 2 where X is the chromosome on which they reside. The family designation of each sequence is shown in Column 3 (- in this column indicates that no definitive family classification can be made). for reference purposes, Column 4 denotes the accession number of the first sequence that comprises each V BASE entry.

The V BASE entry (Column 1) is named as follows. If a single sequence comprises the V BASE entry, the V BASE entry is named after this sequence. If two sequences comprise a single V BASE entry, the V BASE entry corresponds to the names of these sequences separated by a /. If three or more sequences comprise a single V BASE entry, the V BASE entry corresponds to the names of the first two sequences separated by a / followed by three dots. An additional + at the end of the name indicates that the sequence has been mapped within the main heavy and light chain loci (since all D and J sequences have been mapped. + has not been added to these sequences). Further details on the compilation of V BASE (with examples) can be found [here](#).

VH Sequences

1.V BASE entry	2.Locus	3.Family	4.Accession number of first named	5.Compiled sequences
1-1+	1-02	VH1	X92208	1-1(3)
1-17	-	VH3	-----	1-17(66)
1-19	-	VH3	-----	1-19(66)
1-36	-	VH3	-----	1-36(66)
1-52	-	VH3	-----	1-52(66)
1-v/CLL-27...+	5-78	VH5	X92213	1-v(3) /CLL-27(52)/L2-9(52)
12M28	-	VH1	-----	12M28(44)
15-1/HC16-3	Orph-C16	VH1	X92211	15-1(3)/HC16-3(49)
1d101/DP-18+	7-40	VH7	L00159	1d101(46) /DP-18(34)
2-2	-	VH3	-----	2-2(66)
2-20	-	VH3	-----	2-20(66)
2.9II/VH4-MC8...+	4-55	VH4	X92223	2.9II(3) /[VH4-MC8(28)/VH4
2.9III+	3-54	VH3	X92215	2-9III(3)
22-1+	1-12	VH1	X92210	22-1(3)
2M27/11M27...	-	VH1	-----	2M27(44)/11M27(44)/[DA-6(
3-17	-	VH3	-----	3-17(66)
1-36	-	VH3	-----	3-36(66)
3-49RBe	-	VH3	X87090	3-49RBe(62e)
3-49RBm	-	VH3	-----	3-49RBm(62m)
3d277d+	4-31	VH4	L10098	3d277d(32)
3d279d+	4-61	VH4	L10097	3d279d(45)
4-32	-	VH3	-----	4-32(66)
4.30	-	VH4	Z14236	4.30(37)
4.31	-	VH4	X92229	4.31(37)
4.32	-	VH4	Z14235	4.32(37)
4.34.2	-	VH4	Z14239	4.34.2(37)
4.36	-	VH4	Z14241	4.36(37)
4.37	-	VH4	Z14242	4.37(37)
4.38	-	VH4	Z14243	4.38(37)
4.39	-	VH4	X92230	4.39(37)
4.42/VH4.13...	-	VH4	X92233	4.42(37)/[VH4.13(17)/H2(3
4.43.4	-	VH4	X92235	4.43.4(37)
4.43/VH4-MC8...	-	VH4	X92234	4.43(37)/[VH4-MC8(28)/VH4
4.44	-	VH4	X92236	4.44(37)
4.44.3	-	VH4	X92237	4.44.3(37)
4M28	-	VH1	-----	4M28(44)
65-1/DP-20...	Orph-C16	VH1	X55585	65-1(9)/DP-20(34)/HC16-2(
65-3/COS-11...	Orph-C16	VH1	X55586	65-3(9)/COS-11(49)/HC16-4
6M27	-	VH1	-----	6M27(44)
7-2+	1-45	VH1	X92209	7-2(3)
7A.10	-	VH7	X92291	7A.10(59)
7A.16	-	VH7	X92292	7A.16(59)
7A.18	-	VH7	X92293	7A.18(59)
7A.4	-	VH7	X92290	7A.4(59)
7E.2	-	VH7	X92294	7E.2(59)
7R.9	-	VH7	X92295	7R.9(59)
8-1B+	3-66	VH3	X92218	8-1B(3)
8M27	-	VH1	-----	8M27(44)
b1..e	-	VH3	M77323	b1..e(11e)
b13../hv3019b13	-	VH3	M77336	b13..(11)/hv3019b13(11)
b18../hv3019b18	-	VH3	M77337	b18..(11)/hv3019b18(11)
b25	-	VH3	M77326	b25(11)

b26	-	VH3	M77338	b26 (11)
b28e	-	VH3	M77334	b28e (11e)
b28m	-	VH3	-----	b28m (11m)
b29e	-	VH3	M77339	b29e (11e)
b29m	-	VH3	-----	b29m (11m)
b30	-	VH3	M77335	b30 (11)
b32e/b36m	-	VH3	M77324	b32e (11e) / b36m (11m)
b32m	-	VH3	-----	b32m (11m)
b37	-	VH3	M77327	b37 (11)
b43	-	VH3	M77328	b43 (11)
b48	-	VH3	M77329	b48 (11)
b52	-	VH3	M77331	b52 (11)
b54.../hv3005b54	-	VH3	M77332	b54... (11) / hv3005b54 (11)
COS-10+	3-57	VH3	Z17396	COS-10 (51)
COS-12+	3-d	VH3	Z18898	COS-12 (51)
COS-13/HC16-14	Orph-C16	VH3	Z18918	COS-13 (49) / HC16-14 (49)
COS-14/HC15-5	Orph-C15	VH1	Z18899	COS-14 (49) / HC15-5 (49)
COS-15+	3-47	VH3	Z18900	COS-15 (51)
COS-16+	3-43	VH3	Z18901	COS-16 (51)
COS-18/HC15-6	Orph-C15	VH1	Z18903	COS-18 (49) / HC15-6 (49)
COS-19+	1-c	VH1	Z18904	COS-19 (51)
COS-2+	3-52	VH3	Z17388	COS-2 (51)
COS-20	Orph-C16	VH3	Z18905	COS-20 (49)
COS-21/DA-12+	3-76	VH3	Z27445	COS-21 (51) / DA-12 (48)
COS-22+	3-54	VH3	Z27446	COS-22 (51)
COS-23+	3-38	VH3	Z27447	COS-23 (51)
COS-25+	5-51	VH5	Z27449	COS-25 (51)
COS-28+	3-62	VH3	Z27452	COS-28 (51)
COS-3/BHGH1+	3-30	VH3	Z17389	COS-3 (51) / BHGH1 (55)
COS-30	Orph-C16	VH3	Z29594	COS-30 (49)
COS-4	Orph-C15	VH1	Z17390	COS-4 (49)
COS-5+	1-45	VH1	Z17391	COS-5 (51)
COS-6/DA-8...+	3-74	VH3	Z17392	COS-6 (51) / [DA-8 (48)]
COS-8/hv3005f3...+	3-30	VH3	Z17394	COS-8 (51) / hv3005f3 (11) / b4
DA-1+	1-f	VH1	Z29977	DA-1 (48)
DA-2+	1-e	VH1	Z29978	DA-2 (48)
DA-3+	3-72	VH3	Z29979	DA-3 (48)
DA-4+	3-65	VH3	Z29980	DA-4 (48)
DA-5+	3-h	VH3	Z29981	DA-5 (48)
DP-1/HC15-1	Orph-C15	VH1	Z12303	DP-1 (34) / HC15-1 (49)
DP-10/hv1051...+	1-69	VH1	Z12312	DP-10 (34) / hv1051 (47) / 1M27
DP-11/8-2+	1-67	VH1	Z12313	DP-11 (34) / 8-2 (3)
DP-12	Orph-C15	VH1	Z12314	DP-12 (34)
DP-13+	7-56	VH7	Z12315	DP-13 (34)
DP-14/V1-18+	1-18	VH1	Z12316	DP-14 (34) / V1-18 (43)
DP-15/V1-8+	1-08	VH1	Z12317	DP-15 (34) / V1-8 (43)
DP-17/HC16-1	Orph-C16	VH1	Z12319	DP-17 (34) / HC16-1 (49)
DP-19/HC15-3	Orph-C15	VH1	Z12321	DP-19 (34) / HC15-3 (49)
DP-2/V71-5+	1-58	VH1	Z12304	DP-2 (34) / V71-5 (4)
DP-21/4d275a+	7-04.1	VH7	Z12323	DP-21 (34) / 4d275a (46)
DP-22/HC15-2	Orph-C15	VH1	Z12324	DP-22 (34) / HC15-2 (49)
DP-23/HC15-4	Orph-C15	VH1	Z12325	DP-23 (34) / HC15-4 (49)
DP-24	Orph-C15	VH1	Z12326	DP-24 (34)
DP-25/VI-3b+	1-03	VH1	Z12327	DP-25 (34) / VI-3b (2)
DP-28/VH2-MC1...+	2-70	VH2	Z12330	DP-28 (34) / VH2-MC1 (28) / VH2
DP-29/12-2+	3-72	VH3	Z12331	DP-29 (34) / 12-2 (3)
DP-3+	1-f	VH1	Z12305	DP-3 (34)
DP-30	Orph-C15	VH3	Z12332	DP-30 (34)
DP-31/V3-9P...+	3-09	VH3	Z12333	DP-31 (34) / V3-9P (43) / A (66)
DP-32/V3-20+	3-20	VH3	Z12334	DP-32 (34) / V3-20 (43)

W9/W11	Orph-C2	VK1	X51879	W9(87)/W11(87)
Z1	-	VK1	M20813	Z1(83)
Z3	-	VK1	X64641	Z3(91)
Z4	-	VK1	X64642	Z4(91)

JK Sequences

1.V BASE entry	2.Locus	3.Family	4.Accession number of first named	5.Compiled sequences
JK1	1	JK1	J00242	JK1 (142)
JK2	2	JK2	J00242	JK2 (142)
JK3	3	JK3	J00242	JK3 (142)
JK4	4	JK4	J00242	JK4 (142)
JK5	5	JK5	J00242	JK5 (142)

VL Sequences

1.V BASE entry	2.Locus	3.Family	4.Accession number of first named	5.Compiled sequences
10a.872F9+	10a	VL10	Z73676	10a.872F9 (133)
10b.4E7/V1-25P+	10b	VL10	Z73651	10b.4E7 (133)/V1-25P(134)
1a.11.2/DPL1...+	1a	VL1	Z73653	1a.11.2 (133)/DPL1(112)/V1
1b.366F5/DPL5...+	1b	VL1	Z73661	1b.366F5 (133)/DPL5(112)/V1
1c.10.2/DPL2...+	1c	VL1	Z73654	1c.10.2 (133)/DPL2(112)/V1
1d.8.3/DPL4...+	1d	VL1	Z73655	1d.8.3 (133)/DPL4(112)/VL1
1e.10.2/DPL8...+	1e	VL1	Z73656	1e.10.2 (133)/DPL8(112)/V1
1f.366F5/DPL9...+	1f	VL1	Z73662	1f.366F5 (133)/DPL9(112)/V1
1g.400B5/DPL3...+	1g	VL1	Z73663	1g.400B5 (133)/DPL3(112)/V1
2a1.51E6/DPL15...+	2a1	VL2	Z73641	2a1.51E6 (133)/DPL15(112)/V1
2a2.272A12/DPL11...+	2a2	VL2	Z73664	2a2.272A12 (133)/DPL11(112)/V1
2b1.22E4/V1-8P+	2b1	VL2	X97466	2b1.22E4 (133)/V1-8P(134)
2b2.400B5+	2b2	VL2	Z73665	2b2.400B5 (133)
2c.118D9/V1-2+	2c	VL2	X97462	2c.118D9 (133)/V1-2(134)
2d.29D11/DPL13...+	2d	VL2	X73642	2d.29D11 (133)/DPL13(112)/V1
2e.2.2/V1-3+	2e	VL3	Z73657	2e.2.2 (133)/V1-3(134)
2f.61E11/DPL14...+	2f	VL2	Z73643	2f.61E11 (133)/DPL14(112)/V1
3a.119B4/V2-11+	3a	VL3	X97471	3a.119B4 (133)/V2-11(134)
3a2.51E6/V2-4P+	3a2	VL3	X97465	3a2.51E6 (133)/V2-4P(134)
3b.57F5/V2-18P+	3b	VL3	X97467	3b.57F5 (133)/V2-18P(134)
3c.97H8/V2-20P+	3c	VL3	Z73644	3c.97H8 (133)/V2-20P(134)
3e.272A12/V2-15+	3e	VL3	Z73666	3e.272A12 (133)/V2-15(134)
3f.119B4/V2-9P+	3f	VL3	X97463	3f.119B4 (133)/V2-9P(134)
3g.29D11/V2-12P...+	3g	VL3	X97472	3g.29D11 (133)/V2-12P(134)/lv41
3i.2.2+	3i	VL3	Z73658	3i.2.2 (133)
3j.118D9/V2-6+	3j	VL3	X97473	3j.118D9 (133)/V2-6(134)
3k.61E11/V2-22P+	3k	VL3	X97469	3k.61E11 (133)/V2-22P(134)
3m.102D1+	3m	VL3	X97474	3m.102D1 (133)
3n.118D9/V2-5P+	3n	VL3	X97470	3n.118D9 (133)/V2-5P(134)
3o.75H1+	3o	VL3	Z73646	3o.75H1 (133)
3p.81A4/V2-7+	3p	VL3	X97464	3p.81A4 (133)/V2-7(134)
3q.127E5+	3q	VL3	X97468	3q.127E5 (133)